

Appendix E: System Requirements

The following sections describe the requirements and priority of improvement for a modernized FPDS. Within each section, the requirements are prioritized for implementation according to the following:

?? **Pilot implementation:** High payoff needs to be incorporated into the pilot program

?? **FAMIS implementation:** Features that, when combined with the pilot implementation, provide a fully functional system for implementation

?? **Future enhancements:** Desirable features to be included in future system enhancements.

Operational/Functional Needs

a) Data Collection and Dissemination

Pilot implementation:

- (1) The system shall be user-friendly for those inputting data as well as for those retrieving data.
- (2) The system shall be accessible through the Internet.
- (3) The system shall have the ability to provide real-time or instantaneous input and output results.
- (4) The system shall recognize common data elements and provide the capability to automatically load core historical contract data fields previously entered and common for the life of a given contract (e.g. NAICS/UN/SPCS, business size status, TIN, contractor name, etc.). The intent is to minimize data entry required to support modification/delivery order.
- (5) The system shall provide an interface standard, which will enable other systems to both send and receive information.
- (6) The system shall accept manual and electronic data entry.
- (7) The system shall be capable of receiving data feeds from agency procurement systems in a standard interface requirements format.
- (8) The system shall have the ability to populate derived fields based on data in other fields including links to other databases as necessary (e.g., automatically determine "congressional district" based on the vendor's address).

- (9) The system shall execute government defined business rules, which establish data element relationships.
- (10) The system shall prevent duplicate records.
- (11) The system shall provide date and time stamp for all data input.
- (12) The system shall identify to the user all mandatory fields and not accept data transactions unless all mandatory fields are completed.
- (13) The system shall be able to link and exchange data with the Dunn & Bradstreet database, PRONET, and the List of Parties Excluded from Government Contracts (debarred list).

FAMIS implementation:

- (14) The system shall be able to link and exchange data with other designated databases as determined by the government (e.g., Contractor Central Registration (CCR), National Institutes of Health (NIH) Contractor Performance System (CPS), PRONET, purchase card data systems, List of Parties Excluded from Government Contracts (debarred list), Dunn & Bradstreet database, Treasury's Listing of Approved Sureties, and the Department of Labor's Davis Bacon & Service Contract Act on-line area wage determination systems, etc.).

Future enhancements:

- (15) The system shall allow complete capability and access from worldwide locations.

b) User Interface

Pilot implementation:

- (1) The system support shall provide 24-hour access; 10-hour, 5-day helpdesk capability; and problem resolution tracking capability.
- (2) The system shall provide on-line definitions and instructions for data fields (e.g., pop-up menus, etc).
- (3) Context sensitive on-line help shall be available.
- (4) Users will receive feedback on incorrect data fields. Records will not be processed until corrections have been made.
- (5) The system shall be searchable on key words, nomenclatures or entire records.

- (6) The system shall provide the ability to search and retrieve data from any and all data fields.
- (7) The system should minimize the use of codes and maximize the use of plain language.

Future enhancements:

- (8) Data fields shall include references or links to any applicable regulatory prescription.

c) Historical Tracking

Pilot implementation:

- (1) The system shall identify the originator of information and track the source of subsequent changes to the information.
- (2) For pilot agencies, the system shall provide access to historical data (five years will be kept on-line, remainder maintained off-line), based on user-specified date parameters.
- (3) The system shall provide a date/time archiving capability by which historical reports can be recreated.
- (4) The system shall be capable of tracking a historical trail for all transactions.

FAMIS implementation:

- (5) For all agencies, the system shall provide access to historical data (five years will be kept on-line, remainder maintained off-line), based on user-specified date parameters.

d) Database Tracking

Pilot implementation:

- (1) The system shall accommodate agency unique data fields. Development of agency unique fields will be coordinated through the FAMIS Policy Advisory Group.
- (2) The system shall accommodate statutory, regulatory, and administrative changes within 30 days.
- (3) The system shall specify the data model and data element relationships. The system shall identify where changes could be rapidly implemented and areas where major structural modifications would be required. (Contract Data Requirement)

- (4) The system shall be able to identify mandatory and non-mandatory data fields for specific users/ organizations (i.e., based on the user's identification number or contracting organization code) and tailor input screens accordingly.
- (5) The system shall provide immediate feedback to users entering records as to whether the system has accepted the entry. If record entry is determined "invalid", the system should identify the incorrect fields, provide a reason why response is invalid (e.g., identify incompatible fields), or provide an instruction on how to rectify the situation (i.e., point of contact or instruction manual reference).
- (6) Users shall be able to immediately view the record in the system.
- (7) The system shall be capable of suspending incomplete transactions, allowing users to complete the transactions at a later date.
- (8) The system shall be capable of accepting batch processing of input transactions.
- (9) The system shall provide a backup data storage method to save information and enable users the ability to exit without losing data if the system goes down.

FAMIS implementation:

- (10) The system shall enable an administrator to electronically communicate with all users.

Future enhancements:

- (11) The system shall have the ability to add links to web sites as required.
- (12) The system shall provide a suspense file for data not posted to the active database and shall not make the data available for public review until posted. The suspense file is intended for managers and system administrators as a tool for ensuring that all transactions are completed, and completed in a timely manner.

e) System Performance

Pilot implementation:

- (1) The system shall be capable of processing over 700 transactions per hour, 100 simultaneous users, and pilot agency transactions associated with contracts exceeding \$25,000.
- (2) The system shall meet the following minimum performance levels (Industry best practice performance levels are requested):
 - ?? Reliability: 100 percent
 - ?? Availability: 100 percent
 - ?? Processing speed: 5 ICAR transactions/second
 - ?? Support multiple simultaneous users. Necessary bandwidth, computing power and system design will be driven by a traffic analysis conducted prior to general system design.
 - ?? Provide a growth capacity to hold and backup data.

FAMIS implementation:

- (3) The system shall provide the capability for web-enabled desktop online data entry into FAMIS 24 hours a day, seven days a week.
- (4) The system shall be capable of processing over 18,000 transactions per hour? 10,000 simultaneous users, and annually 10.5 million transactions.
- (5) The contract will include performance incentives in the contract. Performance requirements will be limited to vendor-controlled items.
- (6) Average usage and peak usage (transactions over time and required response rate) are TBD.

f) Report Generation

Pilot implementation:

- (1) The system shall be able to generate standard and ad-hoc reports containing user-selected fields and user determined filter conditions.
- (2) The system must generate both summary and detailed (tailored) reports based upon user provided required data elements.
- (3) The system shall be capable of "exporting" some or all data to text file; spreadsheets and databases available in designated PC based Commercial Off-the Shelf (COTS) applications (e.g., Word, Excel, SASS, MS Access, etc.)

g) Security

Pilot implementation:

- (1) The system shall allow only the designated agency administrator to update personnel authorized to enter data and make changes to that data.
- (2) The system shall provide security and limit access at multiple levels down to the data field level.
- (3) Data in the system shall be accessible to the government and public. However, the system shall provide necessary authentication and authorization to accommodate different levels of access for individuals querying the system. The government will identify the hierarchy or user categories for access.
- (4) The system will be able to identify authorized data entry sources and verify sender.
- (5) The system shall insure that information sent is not compromised in transit.
- (6) The system shall provide agencies a method to limit access to information not meant for public dissemination.
- (7) The system shall be able to accommodate masking of data for classified information.
- (8) Firewall resolution is a responsibility of the Agency involved.

Information Needs

The system must be capable of:

h) Internal Customers

Pilot implementation:

- (1) Defining the Buying agency, any sub organization and contracting office.
- (2) In cases where an agency is a buyer for another customer, identifying up to three levels down within a customer agency (e.g. Executive agency, Major command, Program Office) the buying demographics of the requesting customer.

FAMIS implementation:

- (3) Aggregating information at any level of an organization.

- (4) Identifying demographics associated with agency major system codes/programs.
- (5) (Policy group to establish a mechanism by which standard codes can be expanded to better support identification of major systems)

i) Performance Data

- (1) Calculating contract processing time based upon predetermined start time and contract award.

j) Total Dollar Value Of Contracts/External Customer

Pilot implementation:

- (1) Providing visibility of the maximum potential contract value including options and or modifications.
- (2) Identifying value of orders placed against contracts by ordering office.
- (3) Identifying cumulative, total value of orders placed against contracts.
- (4) Identifying initial and incremental funding obligated against individual orders and the total contract.
- (5) Identifying dollars obligated by contractor.

Future enhancements:

- (6) Identifying total dollar amount spent on major systems.
- (7) Identifying potential value by base period and options.
- (8) Identifying currently exercised options.

k) Geography

Pilot implementation:

- (1) Aggregating all information based upon geographic location. (e.g., city, state, zip code, etc, vendor location, vendor place of performance).

l) Contractor Profile

Pilot implementation:

- (1) Defining business information and aggregating information at the facility, company, and the industry level (including Data Universal Numbering System (DUNS), Tax Identification Number (TIN)).

m) Types Of Contracting

Pilot implementation:

- (1) Identifying the type of contract including hybrid contracts (e.g., fixed price, cost plus award fee, etc.).
- (2) Identifying the type of vehicle (GWAC, IDIQ, BPA, Federal Supply Schedule).
- (3) Identifying underfinitized contract actions (including orders).
- (4) Identifying bundled contracts.
- (5) Identifying performance based contracts.
- (6) Identifying if simplified acquisition procedures were used and aggregating results.
- (7) Identifying use of Walsh Healy Act and Service Contract Act, Davis Bacon Act and aggregating cumulative results.
- (8) Identifying if commercial acquisitions/commercial Simplified Acquisition procedures were used and aggregating results and ranking by Agency.
- (9) Identifying whether orders under multiple award contracts were competed and if not identifying justifications that were used (4 items FAR-16.505 (b)(4)).

FAMIS implementation:

- (10) Identifying multiple or single awards.
- (11) For multiple awards and vehicles, aggregating cumulative results.

n) Products And Services Being Bought

Pilot implementation:

- (1) Identifying products, services, and associated contracts information through prescribed descriptions at the individual, agency and Federal aggregate levels (i.e., NAICS, Federal Supply Code (FSC), major program codes, etc.).

o) Socio-Economic

Pilot implementation:

- (1) Providing information as required by legislation related to socio economic data at the contractor level, agency and national aggregate level. Categories shall be as defined in the definition list for socio-economic programs and allow provisions for agency specific tracking requirements.
- (2) Identifying if an award has been given to a mandatory source (i.e., Javits Wagner O'Day (JWOD)).
- (3) Identifying the size of the business involved (sales and employees).

Future enhancements:

- (4) Identifying if an intermediate contracting agent or agency are required for contract execution (i.e., Email as source).

p) Contract Administration

Pilot implementation:

- (1) Identifying period of performance, ordering period, and completion date.
- (2) Identifying contract and contract action date, contract award date, and completion.
- (3) Providing GWAC/IDIQ contracts by common identifier.
- (4) For blanket purchase orders (BPA) under FSS contracts, identify both BPA number and FSS contract number.

Future enhancements:

- (5) Providing number of options left on the contract.

q) International

Pilot implementation:

- (1) Providing unique and aggregate information detailing contracts awarded to a foreign source and location of manufacturer.

r) Competition

Pilot implementation:

- (1) Identify whether competition was used for the reported action, and if not, why not.
- (2) Specifying regulatory statutes (i.e., JWOD) that the award was subject to.

s) E-Commerce

FAMIS implementation:

- (1) Identifying if e-commerce was used.

t) Agency-Unique Fields

FAMIS implementation:

Templates will include unique fields for each agency, not for all agencies.

- (1) Capturing agency unique information as required (i.e., for DoD Certified Cost and pricing).
- (2) Identifying if there is an Agency Strategic Supplier Alliance relationship recognized and available for other Agency use?
- (3) Providing agency specific financing information such as progress payments.
- (4) Providing unique aggregate information detailing the type of funding action, the incremental funding history, and financing utilized – (specific information at the Agency level).

Data Transition

The FPDS currently contains records for Federal contracting for every year since 1978. Five years of data will be accessible on-line to the FAMIS system to enable historical analysis of previous procurements.

Training

A training structure and methodology will be developed. Geographically dispersed users will be trained for initial deployment and the process by which recurring training will be executed.

System Implementation

A strategy for implementation will be developed which has the least impact on operations and the migration of legacy systems.

Documentation

All source code will be documented to ensure future maintainability of the system. The Government data rights will be protected by inclusion of the appropriate contract clauses if outsourced.